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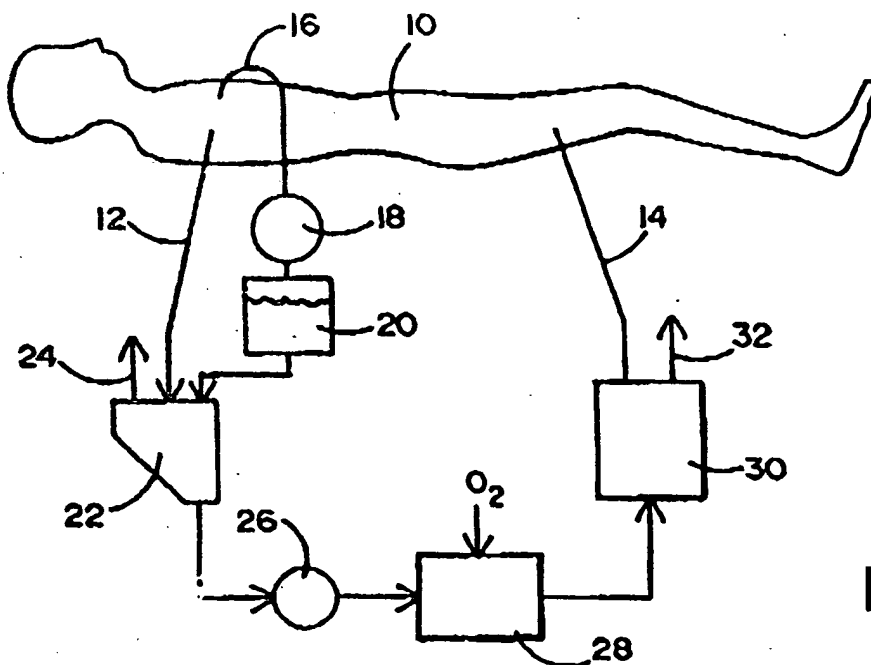
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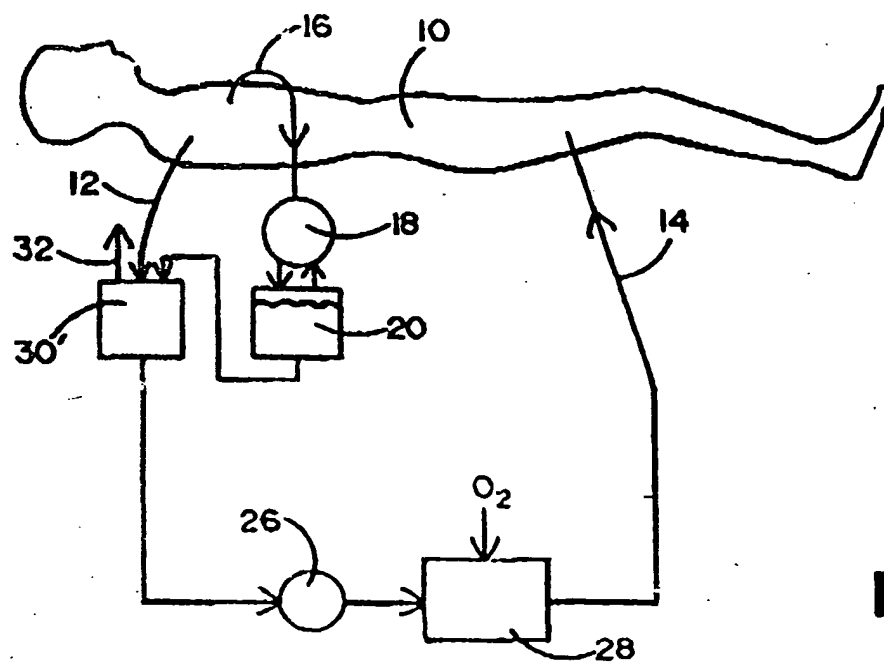
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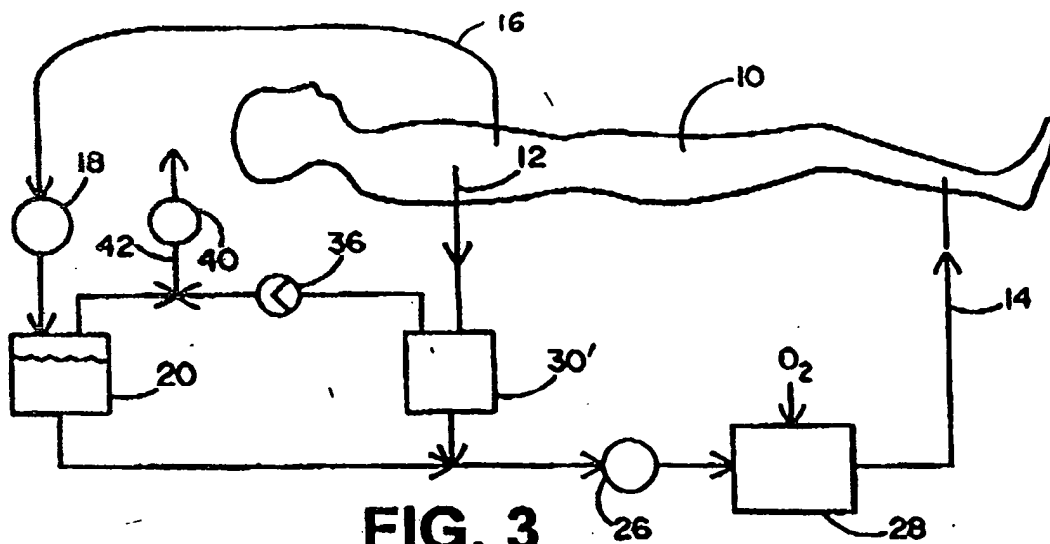
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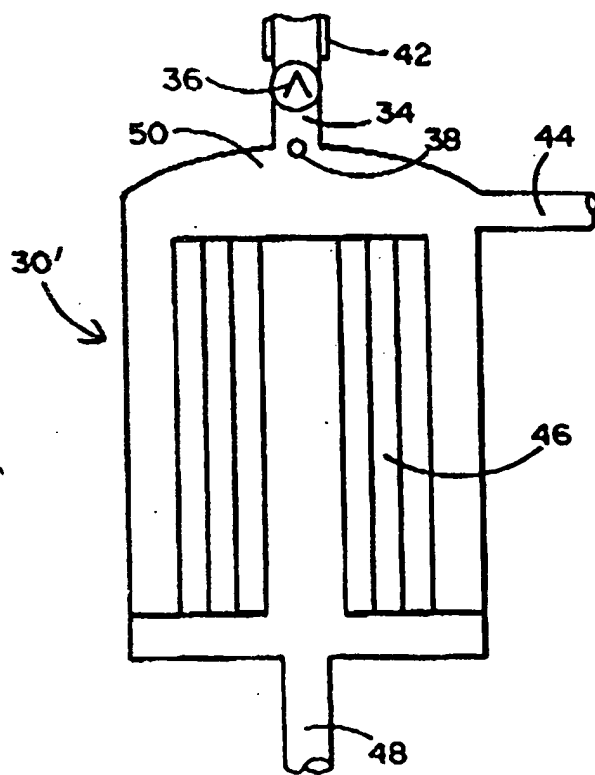
**FIG. 1**  
PRIOR ART



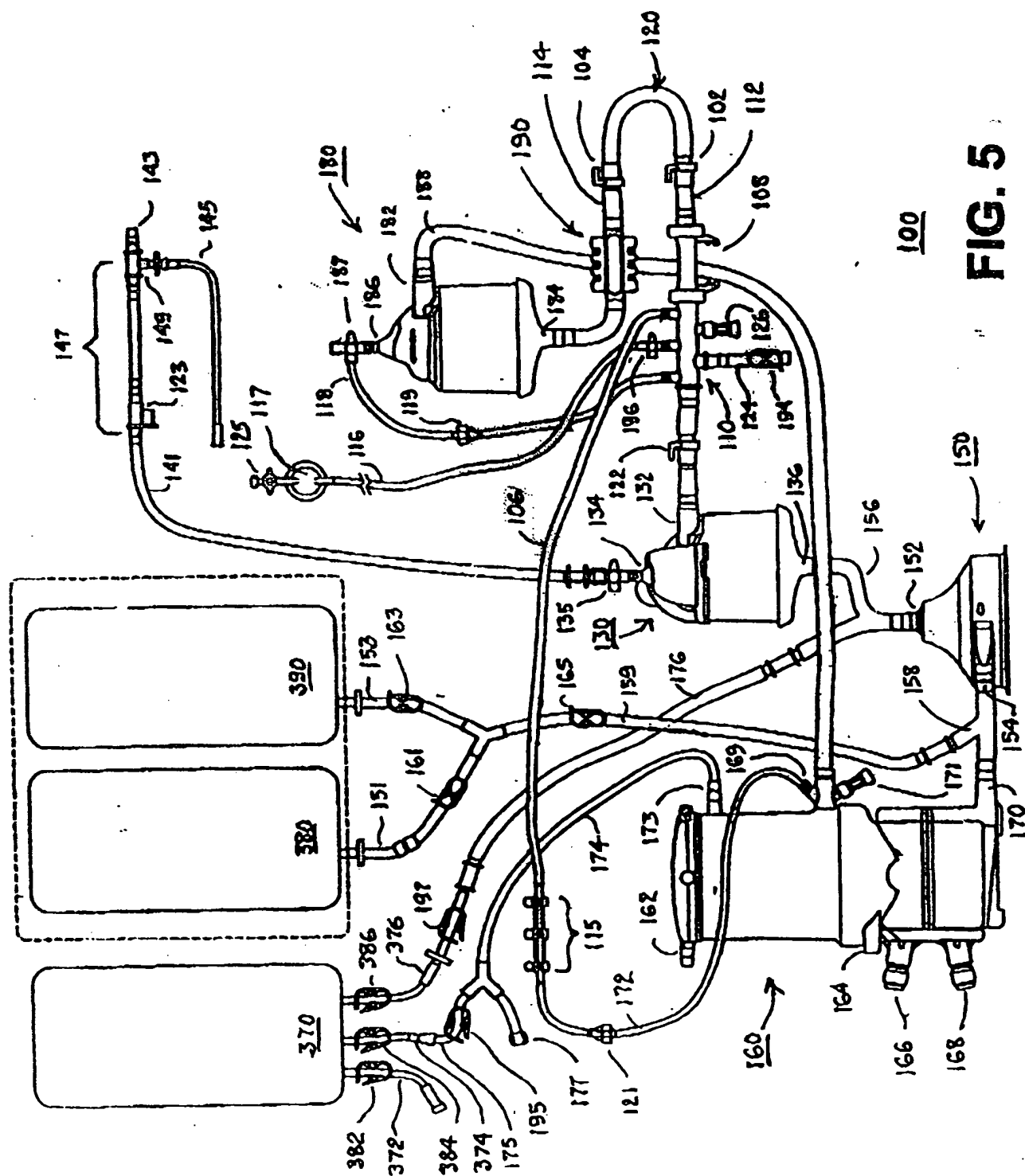
**FIG. 2**  
PRIOR ART



**FIG. 3**  
PRIOR ART

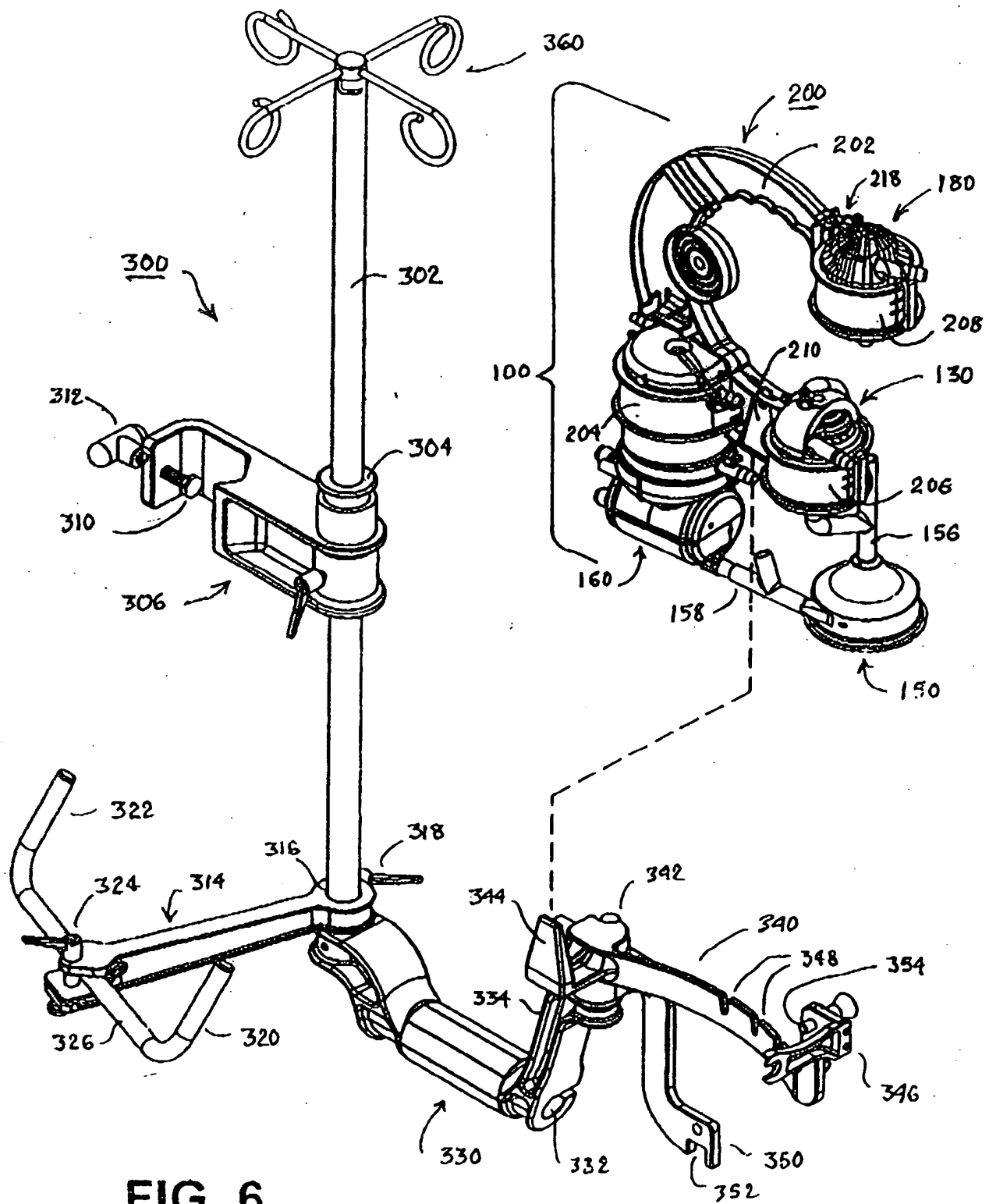


**FIG. 4**  
PRIOR ART

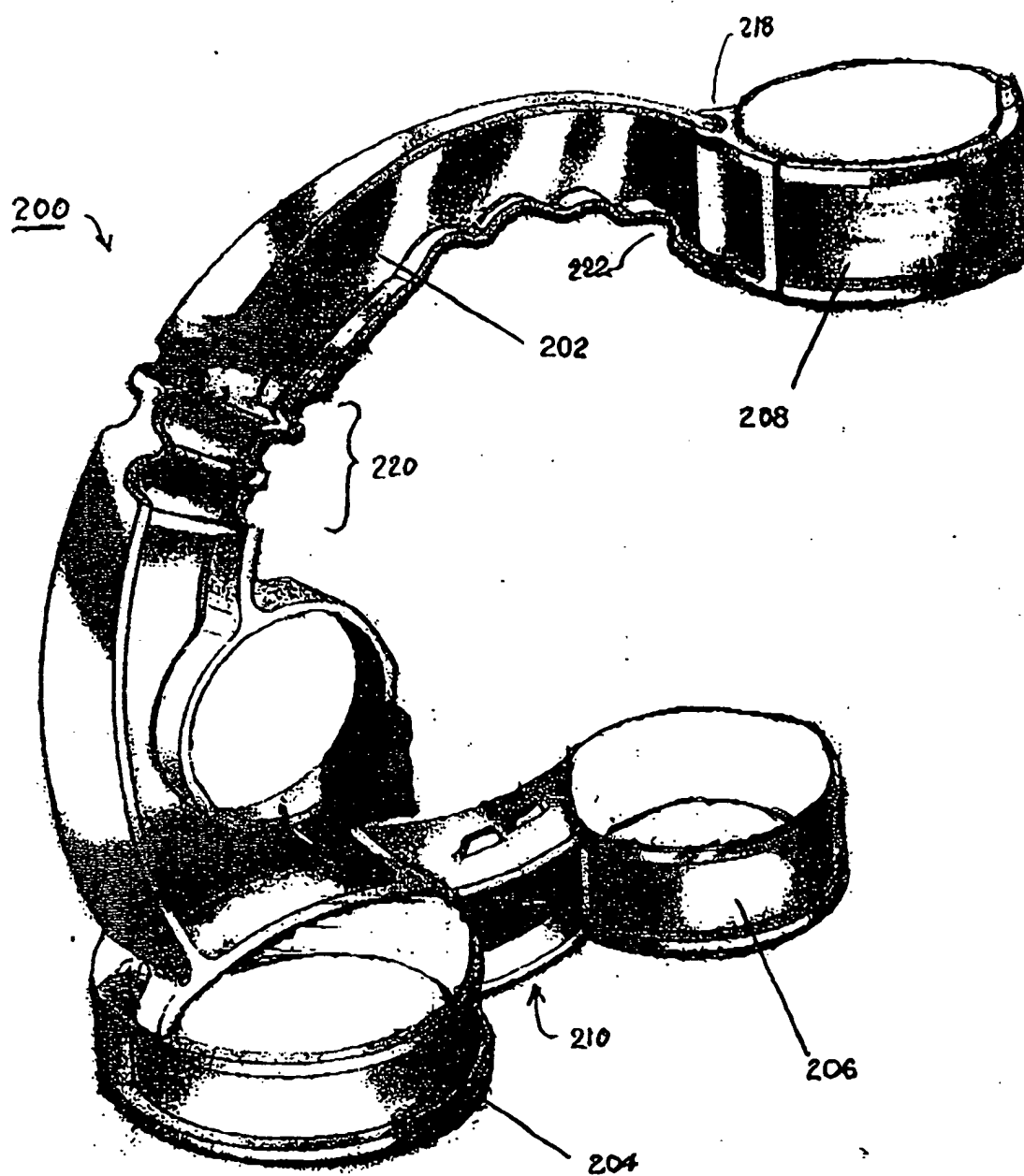


**FIG. 5**

100



**FIG. 6**



**FIG. 7**

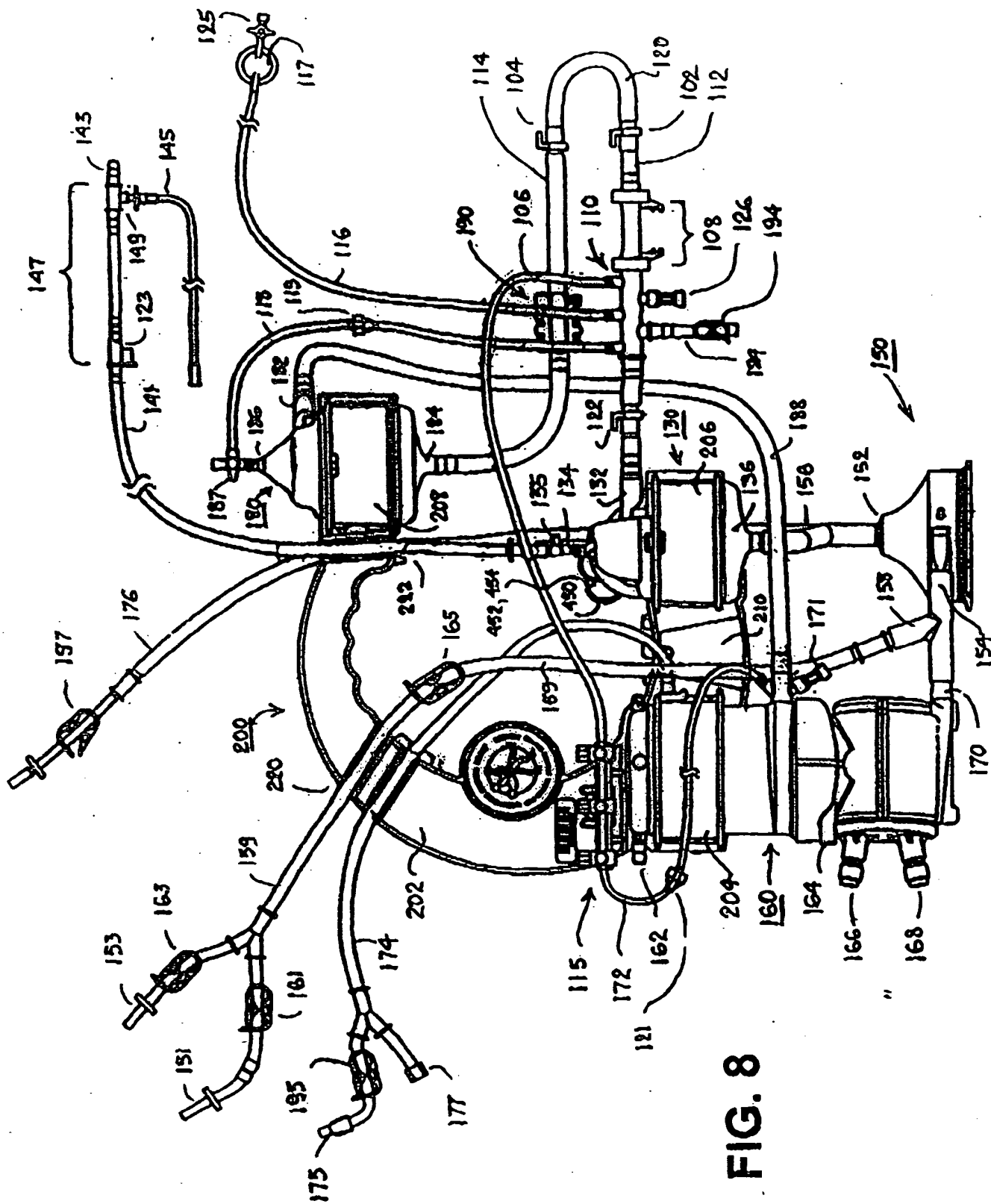
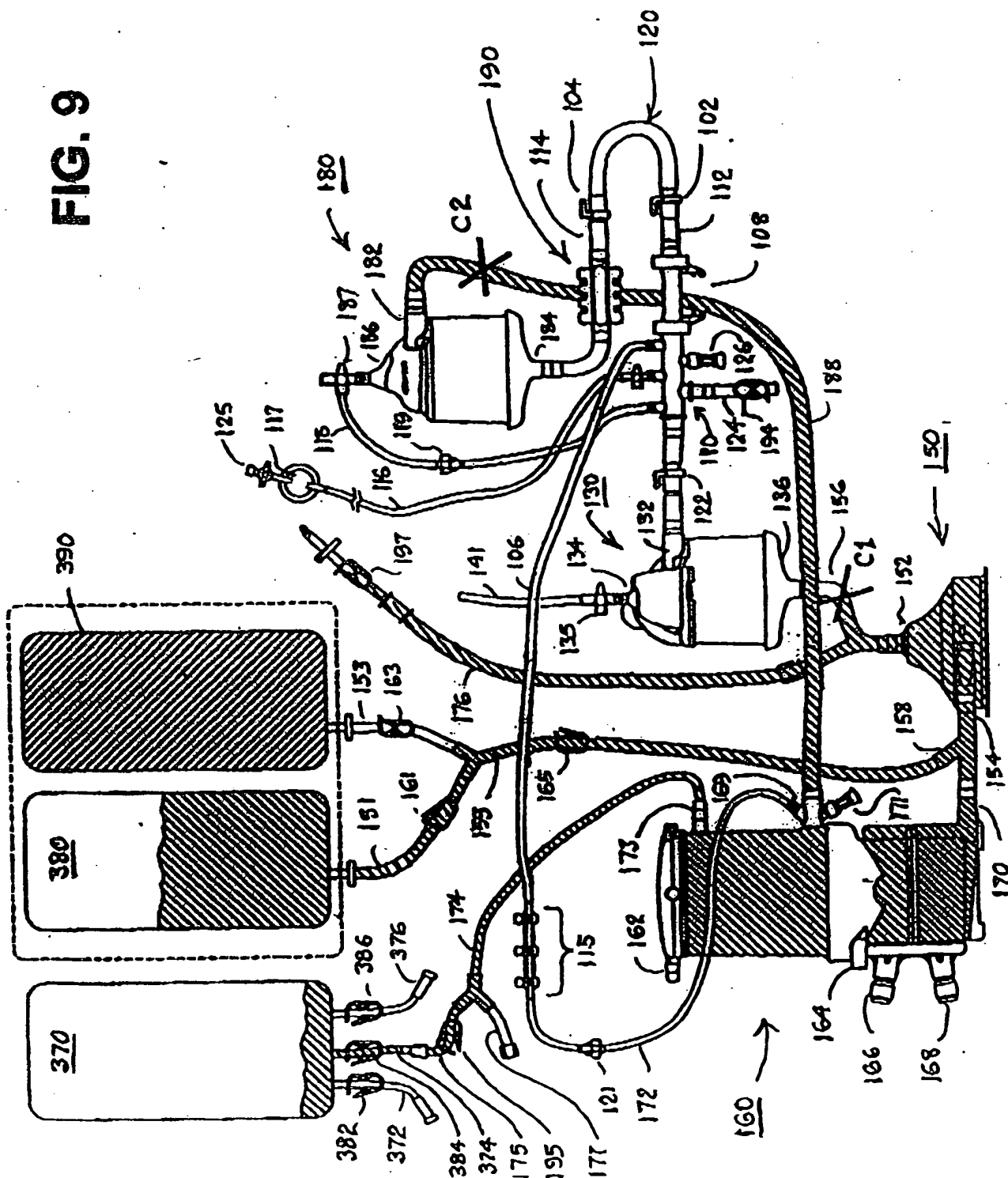


FIG. 8

FIG. 9





01000000

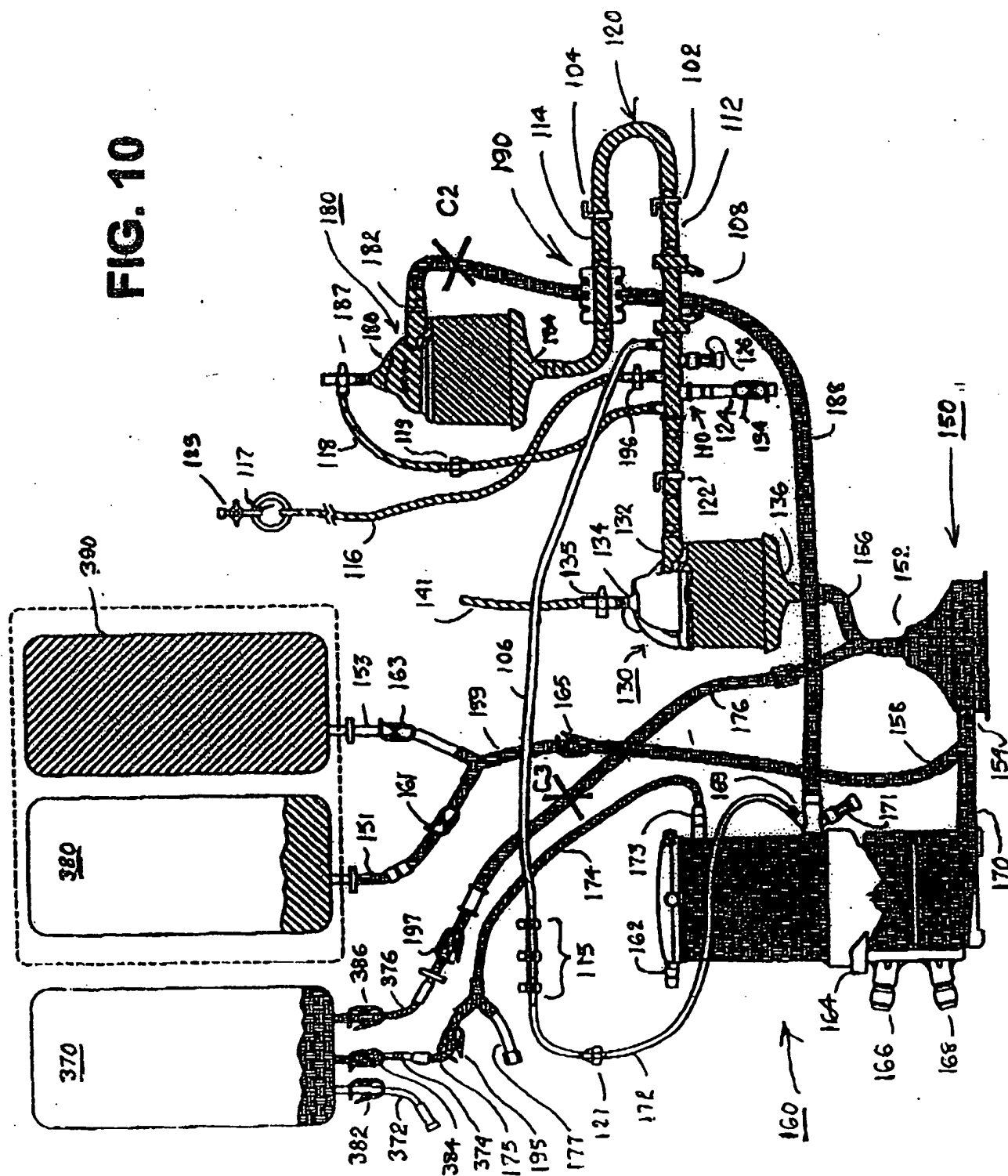
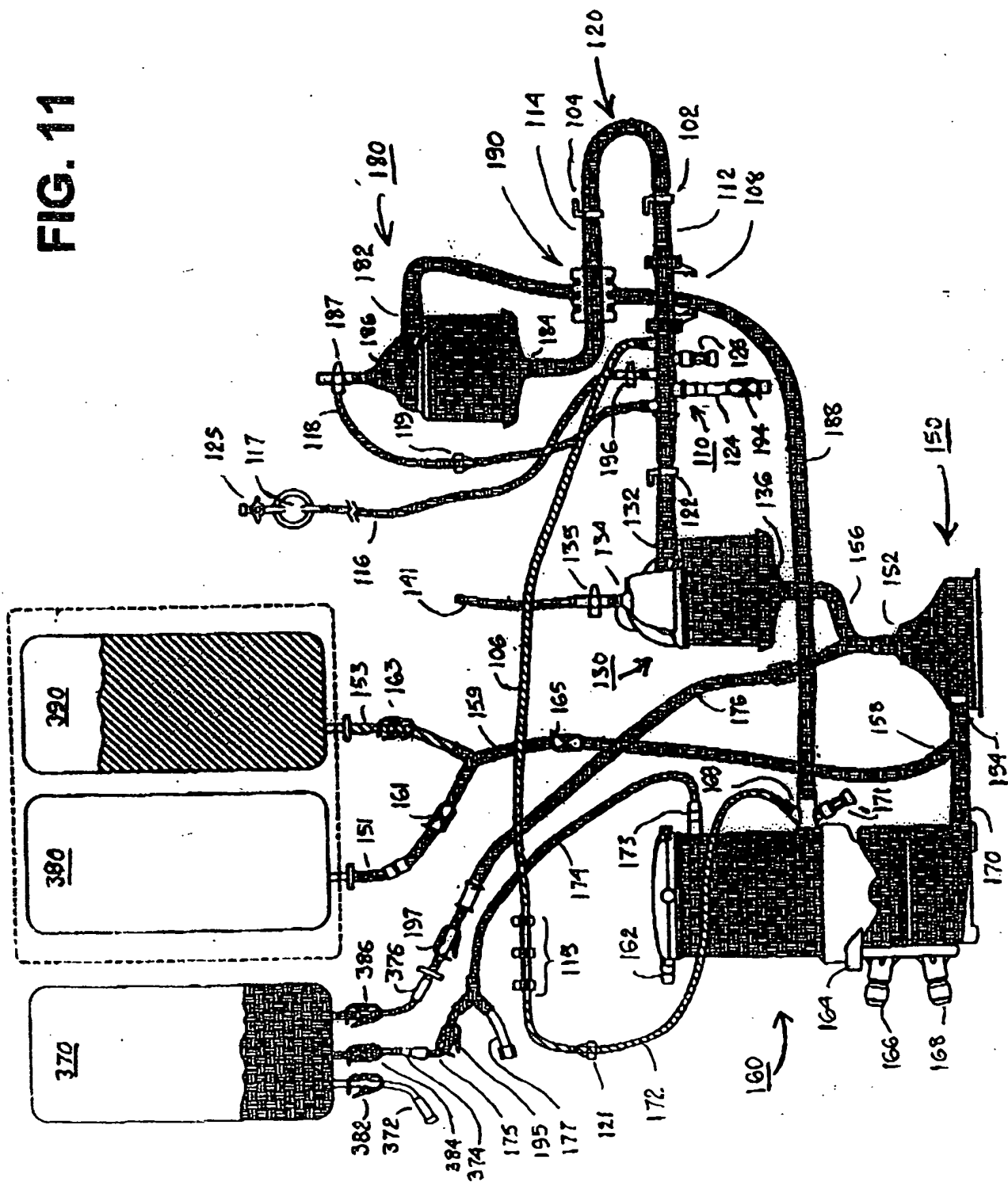


FIG. 11



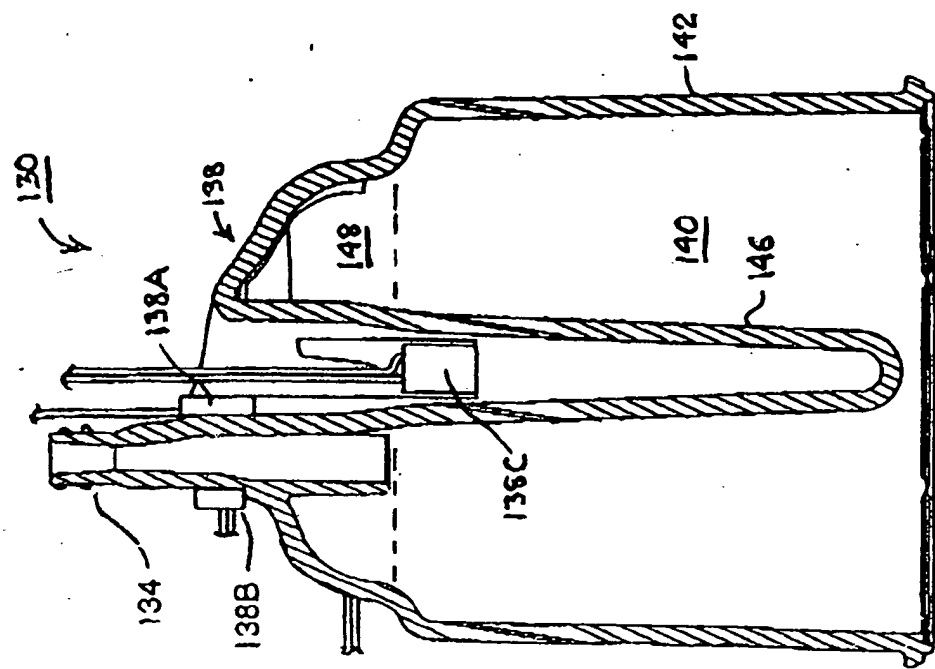


FIG. 12A

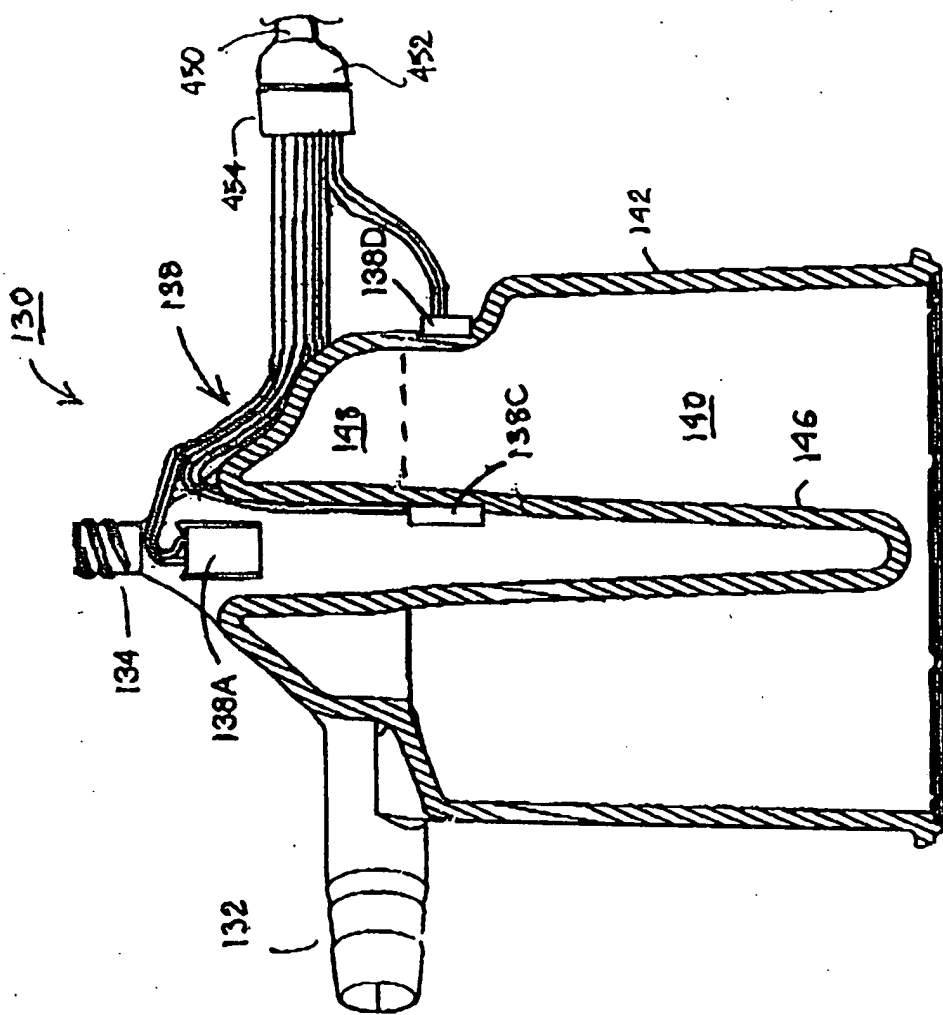
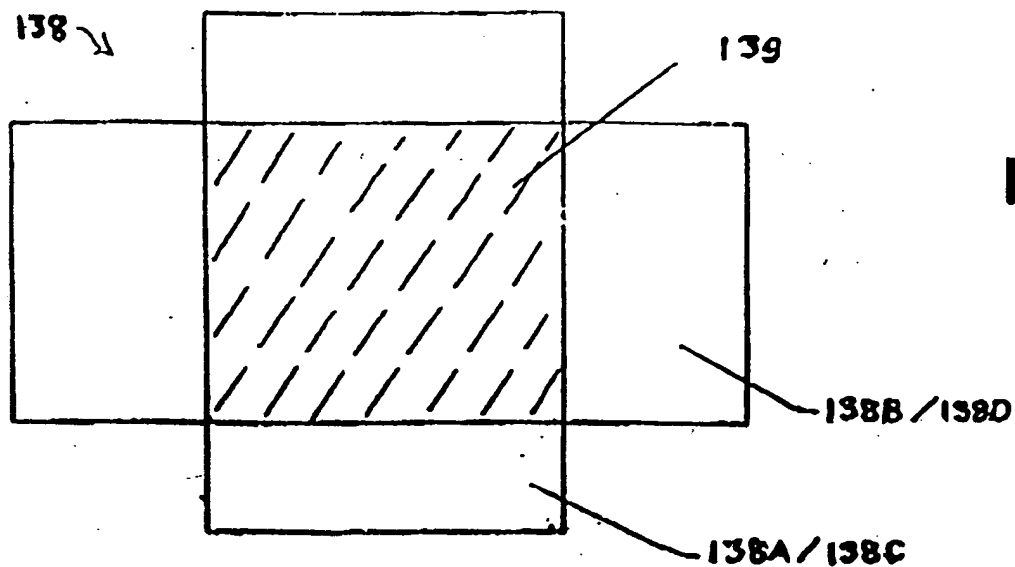
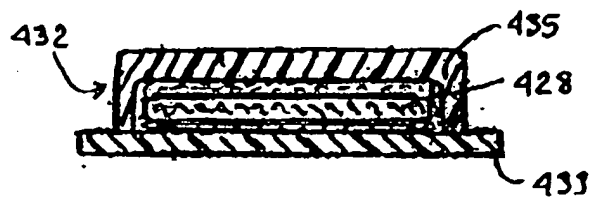
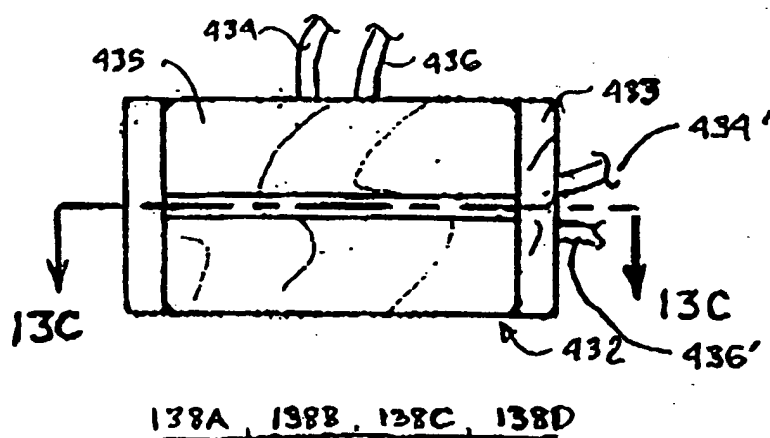


FIG. 12B



**FIG. 13A**

**FIG. 13B**



**FIG. 13C**

FIG. 13D

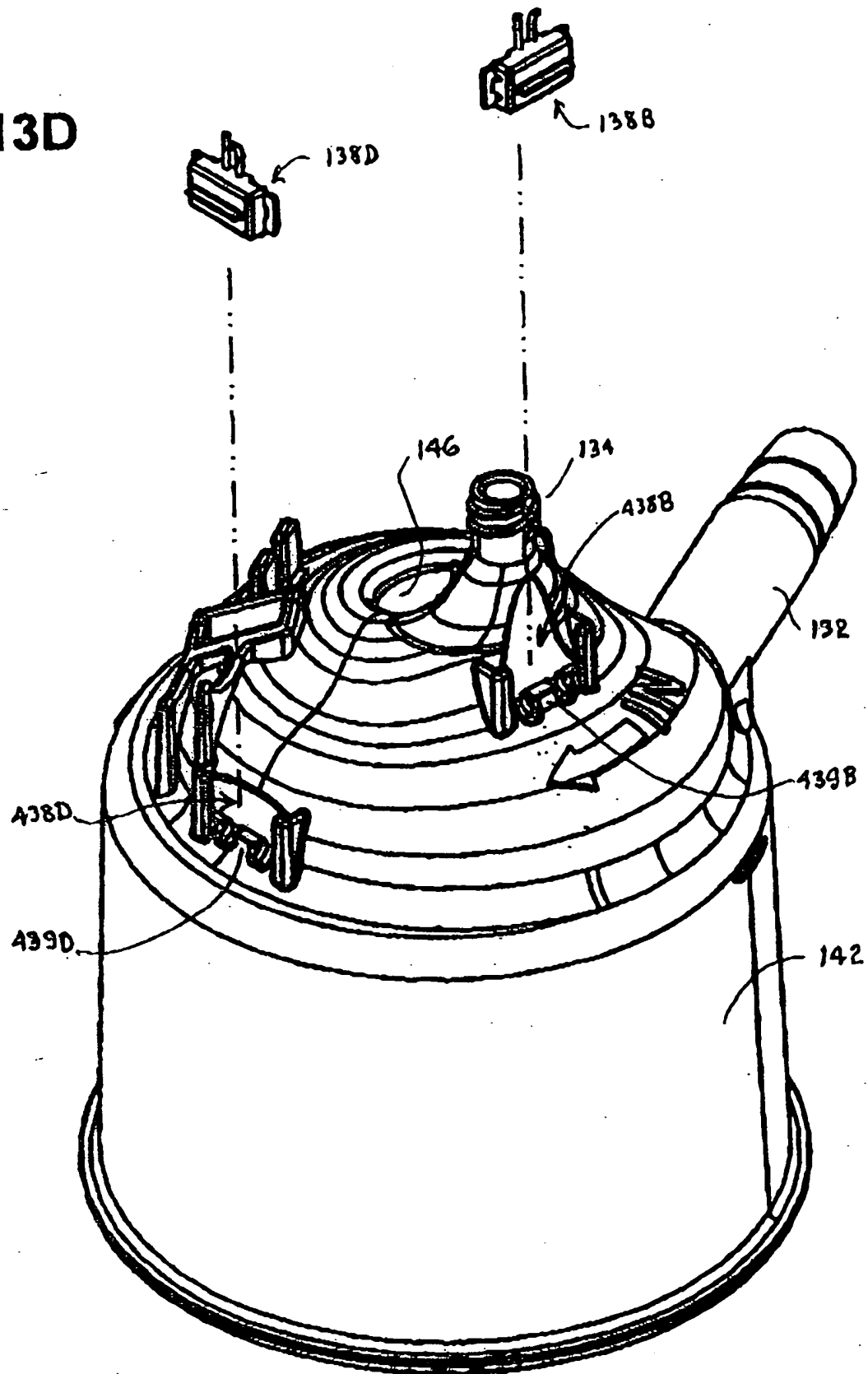
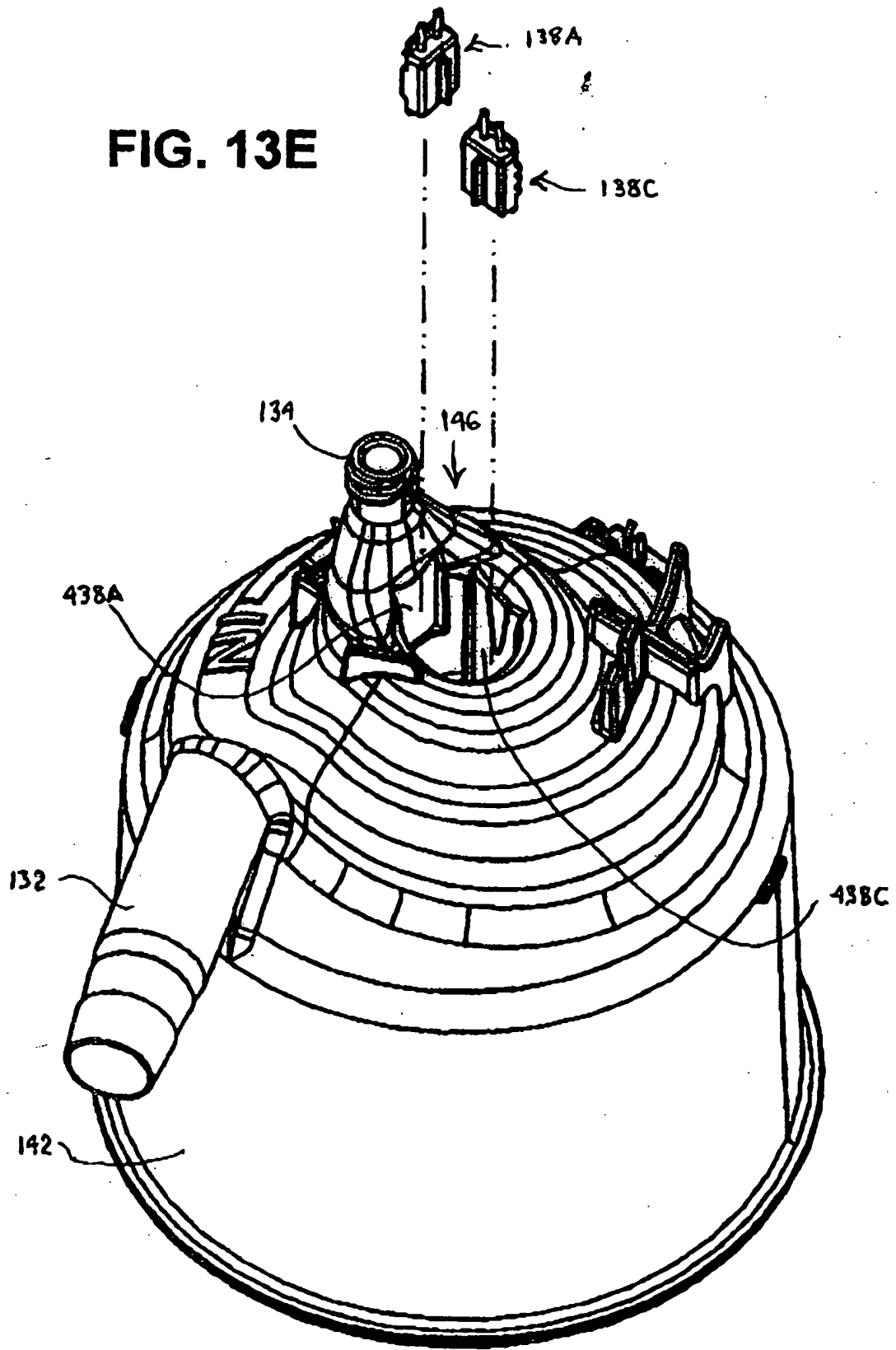
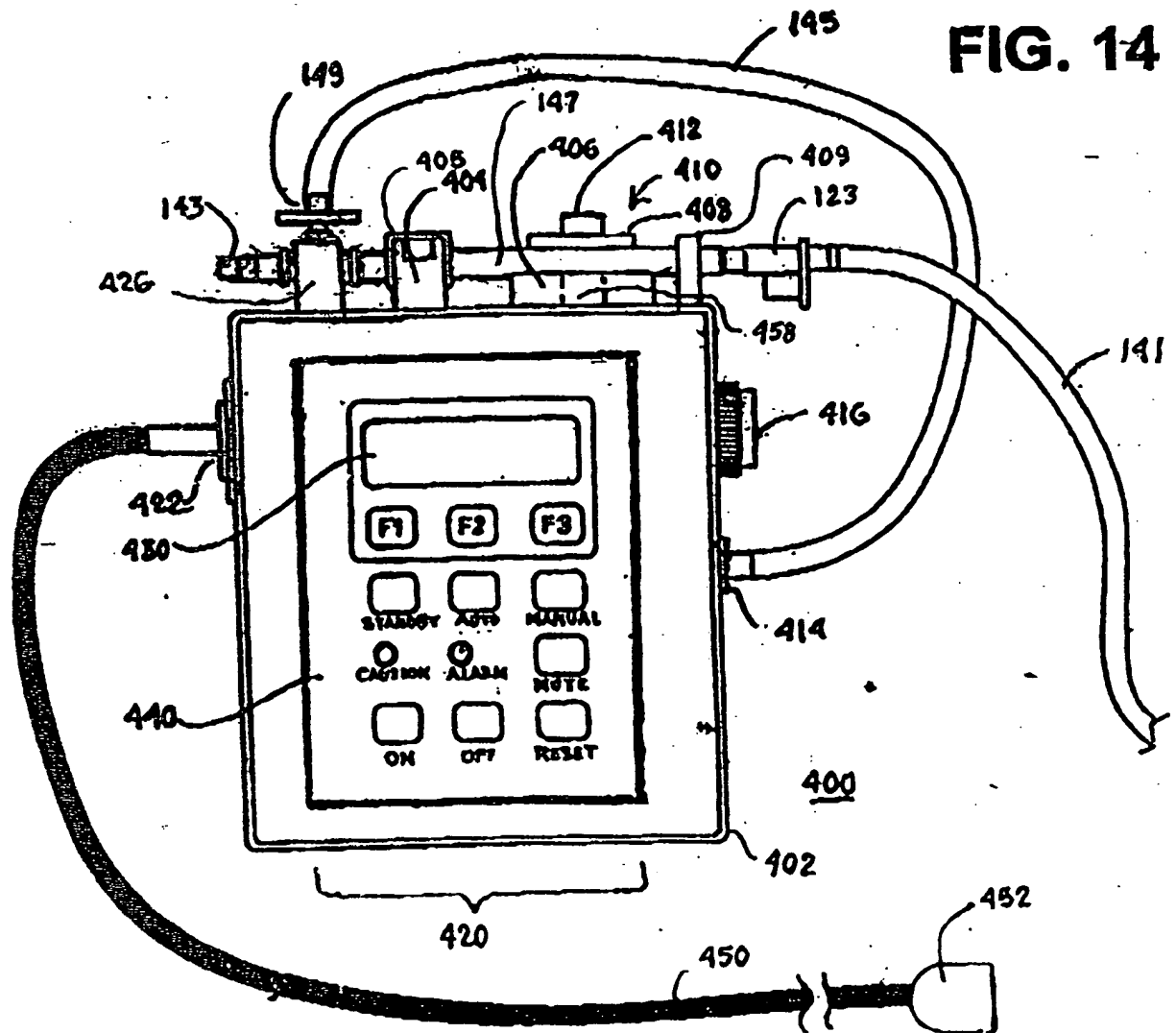


FIG. 13E





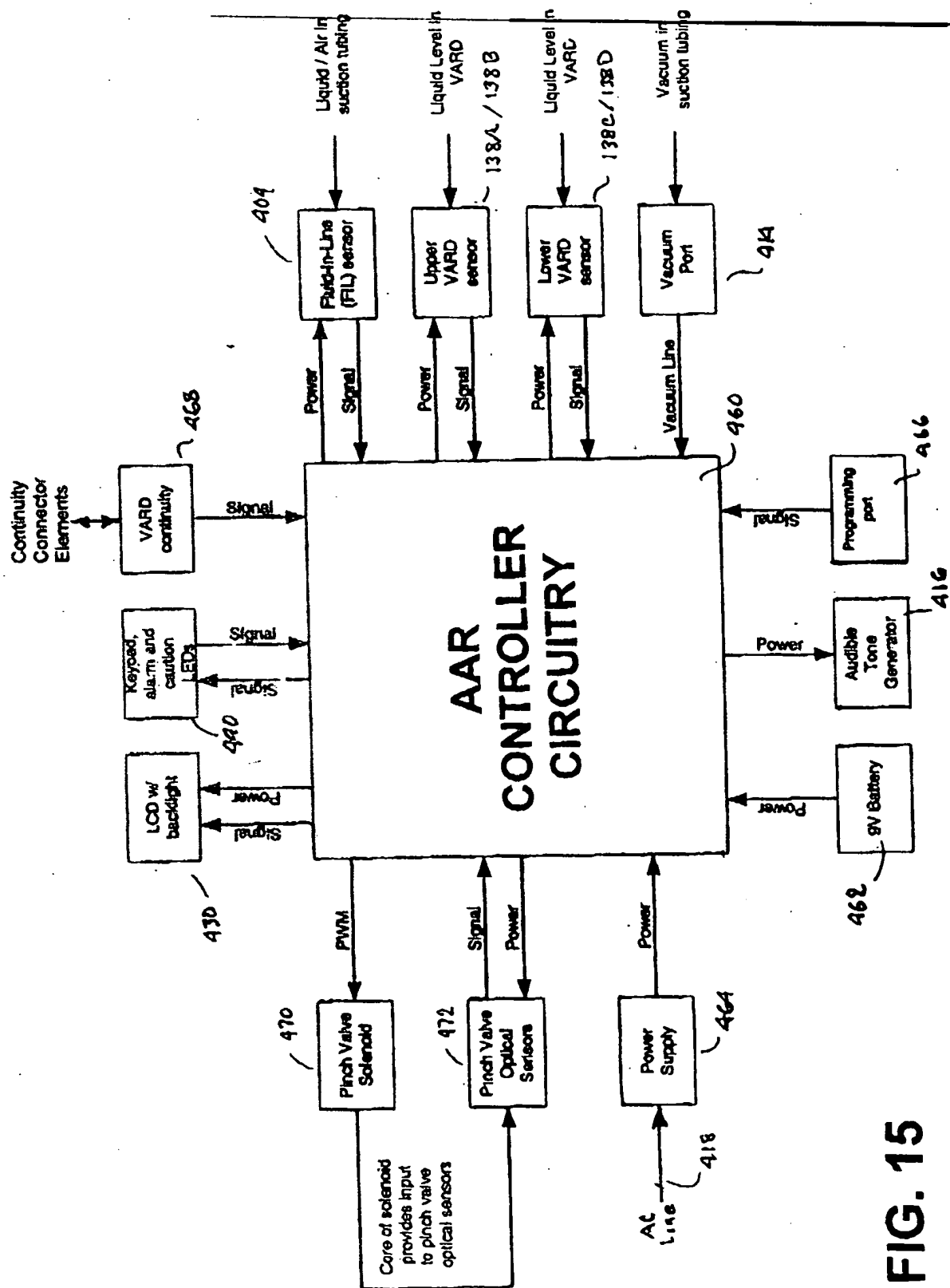
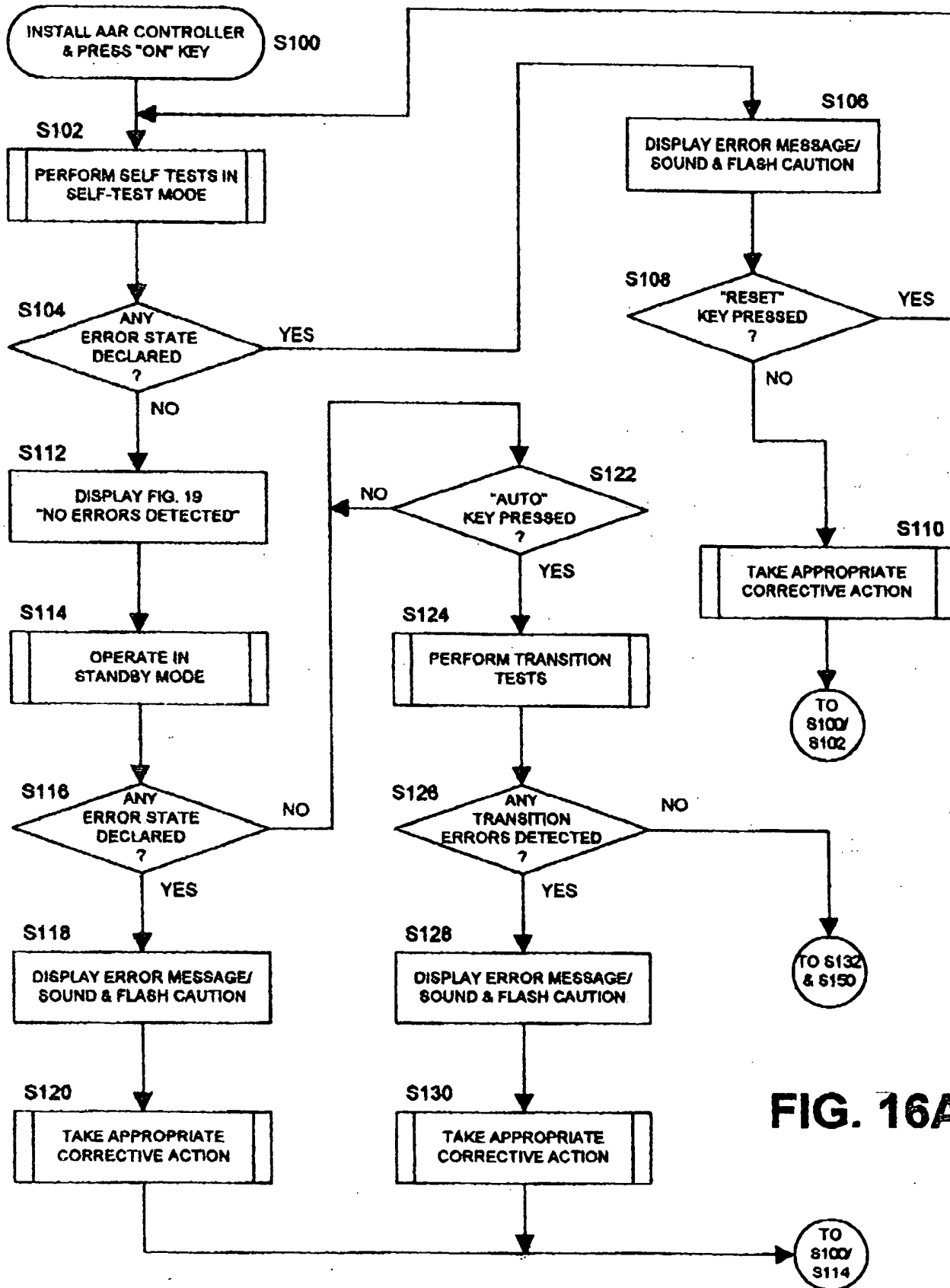


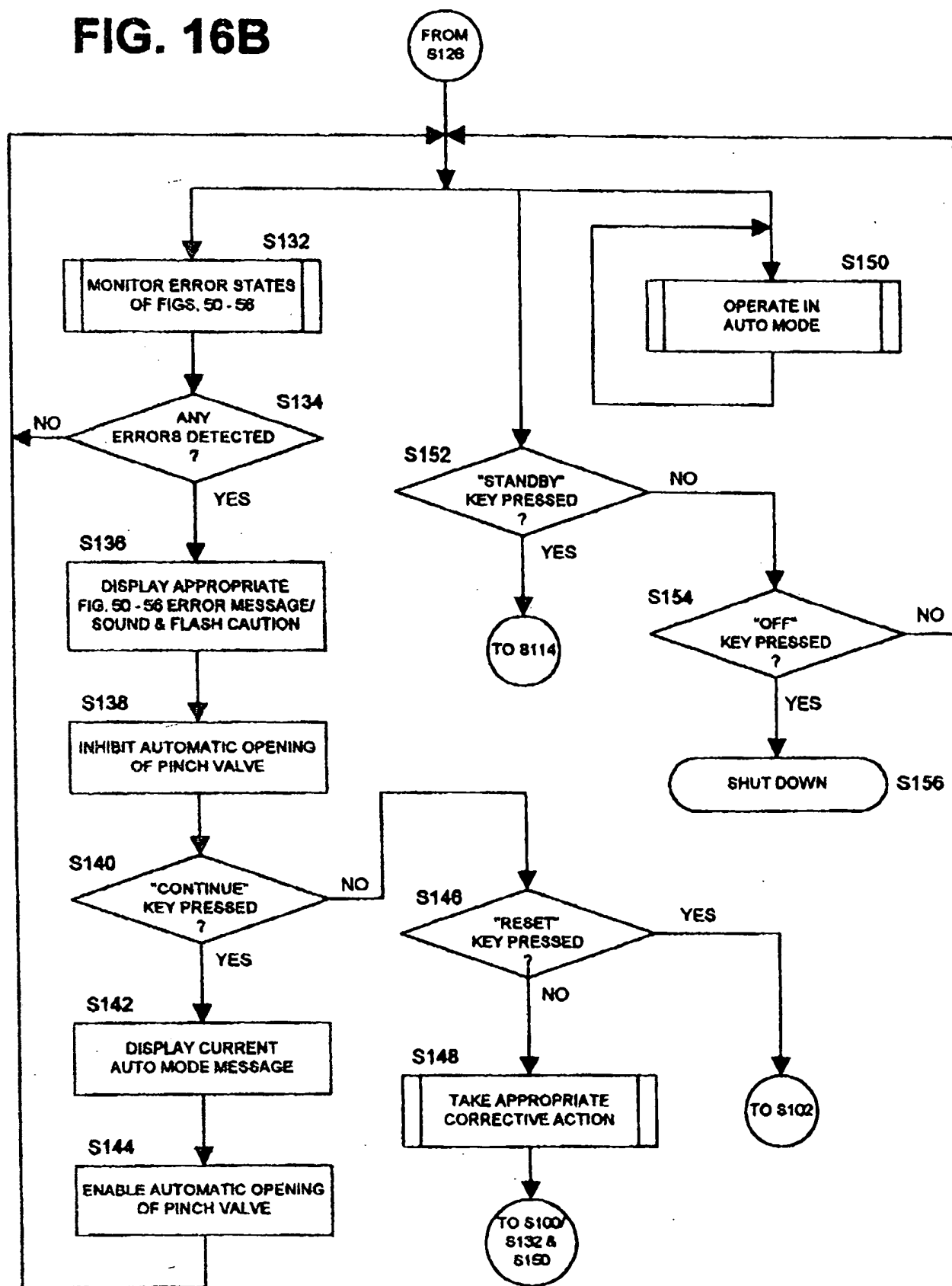
FIG. 15





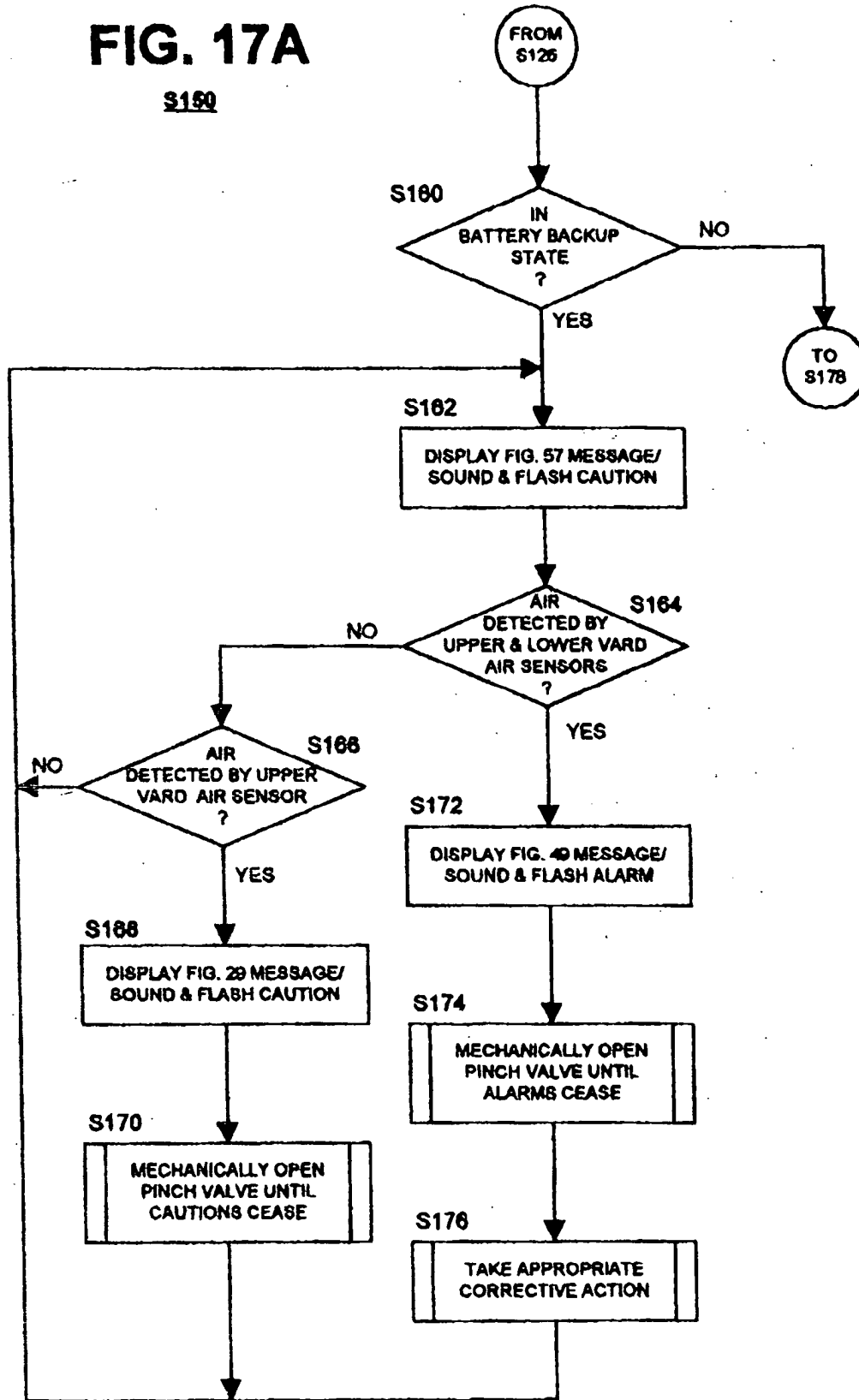
**FIG. 16A**

# FIG. 16B



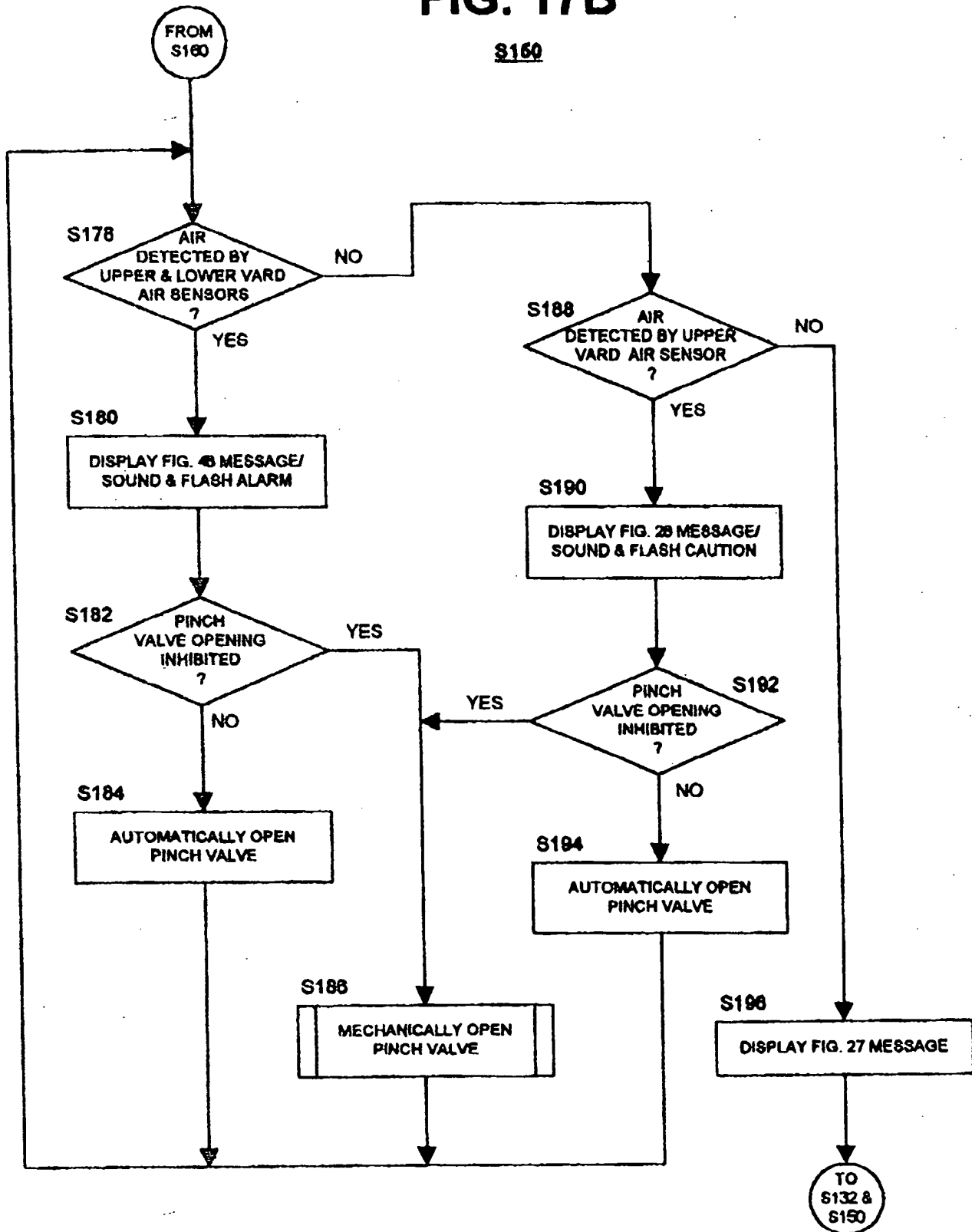
# FIG. 17A

**S160**



# FIG. 17B

S160



**FIRMWARE VERSION X.XX**  
**PERFORMING SELF TEST**

**FIG. 18**

**SELECT LANGUAGE**  
**ENGLISH**  
**< > SELECT**

**FIG. 22**

**SELF TEST COMPLETE**  
**NO ERRORS DETECTED**

**FIG. 19**

**FLUID SENSOR TEST**  
**SENSOR STATUS**  
**AIR**  
**RETURN**

**FIG. 23**

**VALVE CLOSED**  
**STANDBY MODE**  
**SYSTEM READY**  
**MENU**

**FIG. 20**

**FLUID SENSOR TEST**  
**SENSOR STATUS**  
**FLUID**  
**RETURN**

**FIG. 24**

**LANG SENSOR RETURN**

**FIG. 21**

**VALVE OPEN**  
**STANDBY MODE**  
**SYSTEM READY**  
**MENU**

**FIG. 25**

**VALVE OPEN  
STANDBY MODE  
BATTERY BACKUP ON  
MENU**

**FIG. 26**

**SELF TEST COMPLETE  
CRC FAILURE  
REPLACE AAR CONTROLLER**

**FIG. 30**

**VALVE CLOSED  
AUTOMATIC MODE**

**FIG. 27**

**SELF TEST COMPLETE  
VALVE STUCK OPEN  
REPLACE AAR CONTROLLER**

**FIG. 31**

**VALVE OPEN  
AUTOMATIC MODE  
AIR IN VARD**

**FIG. 28**

**SELF TEST COMPLETE  
VALVE STUCK CLOSED  
REPLACE AAR CONTROLLER**

**FIG. 32**

**MANUAL OPERATION  
OPEN THE VALVE**

**FIG. 29**

**SELF TEST COMPLETE  
AAR CONTROLLER FAILURE  
REPLACE AAR CONTROLLER**

**FIG. 33**

SELF TEST COMPLETE  
LOW BATTERY  
CONTINUE?

**FIG. 34**

VALVE CLOSED  
STANDBY MODE  
AIR IN VARD  
MENU

**FIG. 38**

SELF TEST COMPLETE  
NO BATTERY BACKUP  
CONTINUE?

**FIG. 35**

VALVE CLOSED  
STANDBY MODE  
LOW SUCTION  
MENU

**FIG. 39**

SELF TEST COMPLETE  
BATTERY BACKUP ON  
CONTINUE?

**FIG. 36**

VALVE CLOSED  
STANDBY MODE  
BATTERY BACKUP ON  
MENU

**FIG. 40**

VALVE CLOSED  
STANDBY MODE  
VARD NOT CONNECTED  
MENU

**FIG. 37**

VALVE CLOSED  
STANDBY MODE  
LOW BATTERY  
MENU

**FIG. 41**

VALVE CLOSED  
STANDBY MODE  
NO BATTERY BACKUP  
MENU

**FIG. 42**

AAR CONTROLLER FAILURE  
REPLACE AAR CONTROLLER

**FIG. 46**

VARD NOT CONNECTED  
CONTINUE?

**FIG. 43**

LOW SUCTION  
CONTINUE?

**FIG. 47**

CHECK VALVE TUBING  
CONTINUE?

**FIG. 44**

VALVE OPEN  
TOO MUCH AIR  
ENTERING VARD

**FIG. 48**

CHECK VARD SENSORS  
CONTINUE?

**FIG. 45**

MANUAL OPERATION  
OPEN THE VALVE

**FIG. 49**



**AUTOMATIC MODE  
VALVE STUCK OPEN  
CONTINUE?**

**FIG. 50**

**AUTOMATIC MODE  
VARD SENSOR FAILURE  
CONTINUE?**

**FIG. 54**

**AUTOMATIC MODE  
VALVE FAILURE  
CONTINUE?**

**FIG. 51**

**VALVE CLOSED  
AUTOMATIC MODE  
LOW SUCTION**

**FIG. 55**

**AUTOMATIC MODE  
VALVE STUCK CLOSED  
CONTINUE?**

**FIG. 52**

**AUTOMATIC MODE  
VARD NOT CONNECTED  
CONTINUE?**

**FIG. 56**

**SYSTEM FAILURE  
BLOOD BEING REMOVED  
CONTINUE?**

**FIG. 53**

**AUTOMATIC MODE  
BATTERY BACKUP ON**

**FIG. 57**